FINE-TUNING WORD MEANINGS THROUGH ONLINE AND MOBILE APP TECHNOLOGIES: A CLOSE-UP LOOK AT SUCCESSFUL AND UNSUCCESSFUL STRATEGY USE

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FOCUS OF TALK

▶ To discuss strategies used by a hyperpolyglot aimed at fine-tuning (F-T) word meanings in Chinese,

▶ To apply a close-up lens to the process of F-T vocabulary,

▶ To investigate the extent to which new technologies assist learners in arriving at accurate understandings of target-language (TL) vocabulary,

▶ To provide insights for researchers and teachers regarding strategies for accessing technology aimed at enhancing vocabulary knowledge.

REVIEW OF LITERATURE

▸Looking up words in a dictionary (Neubach & Cohen, 1988; Quigley, 2018) – not so easy.

▸Strategies for dealing with TL vocabulary (Wang, 2018; Cohen & Wang, 2018a, 2018b) – complex.

▸Mobile apps and online dictionaries for vocabulary lookup and translation – a survey by Mavrommatidou, Gavriilidou, & Markos (2019) – informative, but lacking in operationalizable strategy descriptions useful for teachers and learners.

▶ Learning Chinese vocabulary through mobile apps and online programs (Qian et al., 2018) – general descriptions, lacking in detail.

▶ Cohen and Wang's (2019) case study on strategies for F-T of word meanings – the basis for this talk.

RESEARCH QUESTONS

1. What strategies does a hyperpolyglot use when engaging with mobile apps, online programs, or a tutor in an effort to fine-tune his understanding of Chinese vocabulary?

2. To what extent are these strategies used separately, in sequence, in pairs, or in clusters?

3. What is the relative effectiveness of strategies for fine-tuning word meanings through the use of vocabulary resources?

RESEARCH DESIGN

CASE STUDY

SUBJECT – A hyperpolyglot who was studying Chinese as his 13th language with high proficiency in Spanish, French, Portuguese, and Hebrew.

– An expert in LLS and intercultural pragmatics.

– Beginning study of Chinese at **67** and **74** at the time of the study.

– Studying in an **FL** learning context – minimal contact with the TL.

– **Motivation**: writing weekly blog entries on topics of interest.

– Restricting his use of Chinese to writing a blog.

– Learning Chinese through *pinyin*.

INSTRUMENTATION

The blog topics

▸ The subject wrote an ongoing blog on politics, health, home fix-it projects, and what sparked joy in his life.

▸ The topics for the study were:

#1 Revelations about Trump's longtime lawyer,

#2 A handyman for his daughter's home,

#3 Baking bread with teff flour given his special diet,

#4 Earthquake-proofing a neighbor's condo,

#5 LED light therapy for treating his neuropathy.

▸ He sought vocabulary best describing the issues, however technical, rather than simplifications.

Dictionary resources

Accessing bilingual dictionaries only, not monolingual or bilingualized ones:

- **The online MDBG Chinese-English Dictionary** – on the learner's desktop computer and his first choice.

- **Google Translate** – in need of verification.

- **The Pleco phone app** – helping in analysis of morphemes and in finding other similar words.

- **The Line Dictionary phone app** – providing English-Chinese definitions in *pinyin*, with collocations and sample sentences.

- **The Collins Reverso Dictionary** – providing collocations and parts of speech.

- **The Google search engine** – using it occasionally to check if two words in *pinyin* had similar meanings

- **Personalized dictionary, referred to as BYKI** (*Before You Know It from Transparent Language*) – the subject provided his own entries in *pinyin* by grammatical category (nouns, verbs, adjectives, function words, and measure words).

- **The NS tutor** – when the learner was not sure if his F-T was accurate, even after consulting various dictionary resources.

Videotaping

▸ Videotaping entailed using the **camera mode** in Windows 10.

▸ The subject stored the videotaped sessions on his Google drive.

▸ He then sent the link to his co-investigator/tutor for analysis.

DATA COLLECTION PROCEDURES

Step 1: The subject wrote 5 blog entries and videotaped verbal report (VR) + written summary of F-T strategies, indicating difficulties.

Step 2: Upon receiving the blog and videotaping, the tutor identified instances where the subject was unclear with regard to his intended meaning.

Step 3: The tutor flagged Chinese concepts in need of F-T by the subject.

Step 4: The subject provided VR as to the strategies used to arrive at understanding of the Chinese words flagged by the tutor.

Step 5: The tutor watched the subject's videos and determined the successfulness of his strategy use.

Step 6: The subject and his tutor had a Skype session, going over each blog topic, with the tutor providing further explanations about words, as well as tips on how to use the various resources.

Step 7: The subject reviewed his blogs, identifying the words in need of further F-T and asked the tutor for further distinctions.

Step 8: Based on feedback from the tutor, the subject recorded the distinctions in his personal dictionary, BYKI.

DATA ANALYSIS PROCEDURES

▸ The co-investigator/tutor analyzed the VR

▸ Largely inductive, involving identification of F-T strategies

▸ Quantitative statements (%s) *re*:

  ▸ the subject's patterns of strategy use,

  ▸ success at vocabulary F-T, and

  ▸ awareness of the effectiveness of his strategic efforts.

▸ When the subject reported using more than one strategy, the strategy configuration was determined (Wang, 2018):

  ▸ **a strategy sequence**,

  ▸ **a strategy pair**,

  ▸ **a strategy cluster**.

▸ The criteria used to determine the subject's relative success at F-T:

  (1) whether his strategy use led to a correct understanding of the meaning for the word or phrase in the given context, and

  (2) whether his strategy use provided him a sense as to acceptable collocations, appropriate use of register, and the formality of the word or phrase.

RESULTS

RQ1. Strategies that the hyperpolyglot used when engaging with mobile apps, online programs, or a tutor

Strategy categorization based on findings:

▷ **1. Strategies for managing resources** – planning, organizing, monitoring/evaluating their use.

▷ **2. Strategies for processing the information in the resource** – (a) finding word equivalents in Chinese, (b) F-T of word meanings, and then (c) verifying the word meanings obtained from these resources.

Strategies used to F-T word meaning

- Using the semantic info and sample examples in BYKI to arrive at possible connotative meanings for the word.

- Drawing an analogy between the chosen word (e.g. *jiànmiàn* 'meeting up') and the related words that he knew (e.g. *yíngjiē* 'meeting and greeting' and *jùhuì* 'getting together with people').

- Figuring out the constraints on the use of the word in collocations and formality level to get a feel for the semantic coverage of the word: e.g. *shàngshēng* 'rise' (prices, numbers) vs. *fā* 'rise' (bread, dough).

- Scrutinizing sample sentences to determine how the word was used and in what part(s) of speech: e.g. *bàodào* (verb) "to report news" and *bàodào* (noun) "a news report."

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RQ2. The extent to which strategies were used separately, in sequence, in pairs, or in clusters
The subject deployed a complex set of strategies.
17% – **strategies used separately**,
49% – **sequences of strategies**,
29% – **paired strategies**,
 5% – **strategies in clusters.**

RQ3. The relative effectiveness of strategies for fine-tuning word meanings through the use of vocabulary resources
The subject fine-tuned **56 vocabulary items**.
This highly-skilled language learner was **successful at F-T of 57% of the vocabulary items** and **unsuccessful with 43%.**

Discussion

- The subject's organization and use of strategies was flexible, individualized, and dynamic.

- F-T of Chinese vocabulary meaning demanded a high level of strategic awareness, personal effort, and time.

- Even this skilled strategy user sometimes inadequately mobilized technology in efforts to fine-tune his vocabulary knowledge.

- Implication: We probably need to qualify statements about the impact of new technologies on learners' fine-tuning of word meanings.

- The F-T of word meanings may be a challenge, especially when the TL differs in many ways from other languages the learner has dealt with.

- The subject preferred using strategies in sequence, consistent with his cognitive style preference of being concrete-sequential.

- His utilization of just a few strategy clusters may have been in order to avoid fatigue.

- The study also showed that the subject's success was in part influenced by the nature of specific dictionary entries.

Suggestions for future research

▸A bigger group of polyglots, representing a range of ages.

▸Half could be learning through *pinyin* and the other half through Chinese characters.

▸Including learners in both an FL and an L2 context.

▸Replicating this vocabulary study focusing on speaking, listening, or reading.

▸Further exploration of ways to raise learners' awareness as to how effective their strategy use is in arriving at the desired F-T.

- Asking subjects to comment on their reasons for preferring a particular combination of strategies in dealing with a given F-T task.

- Basing the strategy categorizations on rigorous piloting so as to avoid fuzzy categories which are uninformative about actual strategy use for the given language skill.

- Investigating the extent to which the F-T of vocabulary by polyglots is informed by languages other than their L1.

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Pedagogical implications

▶ Teachers or tutors could consider assisting learners more in accessing dictionary resources – in, for example:

  ▶ extracting grammatical info *re* the use of verbs, prepositions, and other parts of speech.

  ▶ cutting and pasting info from a dictionary entry in one app to another.

  ▶ finding "usage examples" even if the screen says "no search results."

  ▶ tips on accessing bilingual, bilingualized, and monolingual dictionaries and translation programs.

▸ Teachers could provide strategy instruction for learners (see Chamot & Harris, 2019) – especially *re* how they:

  ▸ select F-T strategies most appropriate for them,

  ▸ combine strategies effectively,

  ▸ sustain motivation over time in the face of frustration in dealing with language tasks.

▸ Even accomplished language learners can benefit from strategy instruction on accessing vocabulary resources through mobile apps and internet programs.

Conclusions

▶ This study illustrated the value of in-depth qualitative investigation, using VR as an important complement to the more typical questionnaire-based, quantitative analysis of reported strategy use (see also Wang, 2018).

▶ A general research recommendation going forward would be to include more detailed descriptions of strategy use by learners as they go about accomplishing language tasks.

▶ It is now easier than ever to collect videotaped data of subjects engaged in VR and to share these data with others.

▶ The ultimate purpose is to improve feedback to learners so as to enhance their TL learning.

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